WHAT IS CLAIMED IS:

1. A method for applying electrical energy to a target site on a structure within a patient's body, the method comprising:

positioning an active electrode into at least close proximity with the target site in the presence of an electrically conducting liquid;

positioning a return electrode within the electrically conducting liquid to generate a current flow path between the target site and the return electrode; and

applying high frequency voltage to the active electrode and the return electrode such that an electrical current flows from the active electrode, through the body structure in the region of the target site, and to the return electrode through the current flow path.

2. The method of claim 1 further comprising directing an electrically conducting liquid along a fluid path past the return electrode and to the target site to generate the current flow path between the target site and the return electrode.

3. The method of claim 1 further comprising immersing the target site within a supply of the electrically conductive liquid and positioning the return electrode within the supply of electrically conductive liquid to generate the current flow path between the target site and the return electrode.

4. The method of claim 2 further comprising generating a high electric field intensity at a distal portion of the active electrode.

5. The method of claim 2 wherein the active electrode is introduced into a substantially dry body cavity so that the target site is substantially electrically isolated from the return electrode prior to the directing step.

6. The method of claim 5 further including pressurizing the body cavity with a gas.

7. The method of claim 6 wherein the body cavity is the patient's abdomen.

8. The method of claim 5 wherein the body cavity is the patient's mouth.

9. The method of claim 2 wherein the active electrode is introduced through a percutaneous penetration in the patient.

10. The method of claim 9 wherein the active electrode is introduced into the thoracic cavity via a flexible catheter.

11. The method of claim 3 wherein the active electrode is introduced into a cavity in the patient's body flooded with the electrically conducting liquid.

12. The method of claim 1 wherein the active electrode is positioned in close proximity to a target site on the epidermis of the patient.

13. The method of claim 2 wherein the directing step includes supplying the electrically conductive liquid to a proximal end of an axial lumen defined by the return electrode within a probe and directing the liquid through a distal end of the axial lumen to the active electrode.

14. The method of claim 1 further including positioning a distal end of a liquid supply shaft adjacent the active electrode, the directing step including directing the electrically conducting liquid through an inner lumen in the liquid supply shaft that is electrically connected to the return electrode and discharging the liquid through an open distal end of the supply shaft towards the active electrode.

15. The method of claim 1 wherein the active electrode comprises an electrode array including a plurality of isolated electrode terminals.

16. The method of claim 1 wherein the electrically conducting fluid has a conductivity greater than 2 mS/cm.

17. The method of claim 2 wherein the electrically conductive liquid comprises isotonic saline.

18. The method of claim 4 wherein the electric field intensity is sufficient to cause molecular disintegration of tissue structure on the target site.

19. The method of claim 15 including independently controlling current flow from at least two of the electrode terminals based on impedance between the electrode terminal and the return electrode.

20. The method of claim 15 wherein the return electrode is an outer tubular member, the shaft including an insulating member defining an axial passage between the insulating member and the outer tubular member, the directing step including directing the electrically conductive liquid through the inner lumen to the distal end of the shaft over the active electrode.

21. A method as in claim 15, further including maintaining a space between the electrode array and the body structure during the applying step.

22. The method of claim 21 wherein the maintain step comprises moving the electrode array transversely across the body structure.

23. A method for applying energy to a target site on a patient body structure comprising:

positioning an active electrode surface in close proximity to the target site in the presence of an electrically conducting liquid; and

applying a high frequency voltage between the active electrode surface and a return electrode surface, the high frequency voltage being sufficient to vaporize the liquid in a thin layer over at least a portion of the active electrode surface and induce the discharge of energy from the vapor layer.

24. The method of claim 23 wherein the active electrode surface comprises an electrode array including a plurality of isolated electrode terminals.

25. The method of claim 23 wherein the at least a portion of the energy induced from the vapor layer is in the form of photons having a wavelength in the ultraviolet spectrum.

26. The method of claim 23 wherein at least a portion of the energy induced from the vapor layer is in the form of energetic electrons.

27. The method of claim 24 wherein the isolated electrode terminals each have a contact area below 15 mm^2.

28. The method of claim 24 wherein the isolated electrode terminals have circular contact surfaces with an area in the range from 0.01 mm^2 to 1 mm^2.

29. The method of claim 24 wherein the electrode surface includes at least two electrode terminals.

30. The method of claim 24 wherein the electrode surface comprises between 4 to 50 electrode terminals.

31. The method of claim 24 wherein the electrode terminals are spaced from each other a distance of 5 to 0.01 mm.

32. The method of claim 24 wherein the electrode array is disposed over a distal tip of an electrosurgical probe.

33. The method of claim 32 wherein the distal tip of the probe includes an insulating matrix between the electrode terminals, the insulating matrix comprising a material having a relatively low thermal conductivity.

34. The method of claim 24 wherein the electrode terminals comprises a material with a relatively low thermal conductivity.

35. The method of claim 34 wherein the electrode materials comprises a material selected from the group consisting of titanium, tungsten, platinum, aluminum and tantalum.

36. The method of claim 32 wherein the electrode terminals extend a distance of 0.00 to 5 mm from an electrically insulating matrix on the distal tip of the probe.

37. The method of claim 32 wherein the electrode terminals are substantially flush with an electrically insulating matrix on the distal tip of the probe.

38. The method of claim 32 wherein the electrode terminals are proximally recessed a distance of 0.00 to 0.005 inches from an electrically insulating matrix on the distal tip of the probe.

39. The method of claim 23 wherein the high frequency voltage is at least 300 volts peak to peak.

40. The method of claim 23 wherein the voltage is in the range from 600 to 1400 volts peak to peak.

41. The method of claim 23 wherein the active electrode is positioned between 0.02 to 5 mm from the target site.

42. The method of claim 23 wherein the vapor layer has a thickness of 10 to 400 microns.

43. The method of claim 23 wherein the active electrode surface and the return electrode surface are spaced apart by a distance in the range from 1 to 10 mm.

44. The method of claim 24 wherein the return electrode has a distal end positioned proximal to the electrode array.

45. The method of claim 23 wherein the active electrode surface and the return electrode comprise a bipolar array of isolated electrode terminals.

46. The method of claim 23 wherein the electrically conducting liquid has a conductivity greater than 2 mS/cm.

47. The method of claim 23 wherein the electrically conductive liquid comprises isotonic saline.

48. A method for applying energy to a target site on a patient body structure comprising:

positioning an active electrode surface in close proximity to the target site in the presence of an electrically conducting liquid; and

applying a high frequency voltage between the active electrode surface and a return electrode surface, the high frequency voltage being sufficient to impart sufficient energy into the target site to ablate several cell layers of the body

structure without causing substantial tissue necrosis beyond the several cell layers.

49. The method of claim 48 wherein the applying step comprises:

vaporizing the electrically conducting liquid in a thin layer over at least a portion of the active electrode surface; and

inducing the discharge of photons from the vapor layer.

50. The method of claim 48 wherein the applying step comprises:

vaporizing the electrically conducting liquid in a thin layer over at least a portion of the active electrode surface; and

inducing the discharge of energetic electrons from the vapor layer.

51. The method of claim 48 wherein the depth of necrosis is 0 to 400 microns.

52. A method for applying energy to a target site on a patient body structure comprising:

positioning an active electrode surface in close proximity to the target site in the presence of an electrically conducting liquid; and

applying a high frequency voltage between the active electrode surface and a return electrode surface, the high frequency voltage being in the range from 600 to 1400 volts peak to peak.

53. The method of claim 52 wherein the high frequency voltage is in the range from 700 to 900 volts peak to peak.

54. A method for applying energy to a target site on a patient body structure comprising:

positioning an active electrode surface in close proximity to the target site in the presence of an electrically conducting liquid; and

generating a voltage gradient between the active electrode surface and tissue at the target site, the voltage gradient being sufficient to create an electric field that breaks down the tissue through molecular dissociation.

55. The method of claim 54 wherein the generating step comprises:

applying a high frequency voltage between the active electrode surface and a return electrode surface; and

vaporizing the electrically conducting liquid in a thin layer over at least a portion of the active electrode surface.

56. The method of claim 55 further comprising developing a film layer of vapor between the active electrode and the tissue at the target site.

57. The method of claim 56 wherein a substantial portion of the voltage drop occurs across the film layer of vapor to shield the tissue from the high frequency voltage.

58. The method of claim 55 further comprising cooling the tissue with the electrically conducting liquid to shield the tissue from the high frequency voltage.

59. The method of claim 58 wherein the cooling step includes translating the distal tip of the probe over the target site to allow the electrically conducting liquid to contact the tissue after the tissue has been subjected to the high frequency voltage.

60. An electrosurgical system for use with a high frequency power supply and an electrically conducting liquid supply, the system comprising:

an electrosurgical probe comprising a shaft having a proximal end and a distal end, an active electrode disposed near the distal end, and a connector near the proximal end of the shaft for electrically coupling the active electrode to the electrosurgical power supply; and

a return electrode adapted to be electrically coupled to the electrosurgical power supply;

wherein the active and return electrodes are configured, upon the application of a sufficiently high frequency voltage therebetween, to vaporize the liquid in a thin layer over at least a portion of the active electrode and induce the discharge of energy from the vapor layer.

61. The system of claim 60 wherein the energy induced from the thin layer of vaporized liquid is in the form of energetic electrons.

62. The system of claim 60 wherein the energy induced from the thin layer of vaporized liquid is in the form of photons having a wavelength in the ultraviolet spectrum.

63. The system of claim 60 wherein the return electrode defines a liquid path in electrical contact with the return electrode and the active electrode, the liquid path having an inlet adapted to be fluidly coupled to the electrically conductive liquid supply for generating a current flow path between the return electrode and the active electrode.

64. The system of claim 60 wherein the active electrode comprises an electrode array including a plurality of isolated electrode terminals.

65. The system of claim 64 wherein the isolated electrode terminals each have a contact area below 15 mm^2.

66. The system of claim 64 wherein the electrode surface includes at least two electrode terminals.

67. The system of claim 64 wherein the electrode surface comprises between 4 and 50 electrode terminals.

68. The system of claim 64 wherein the electrode terminals are spaced from each other a distance of 0.01 to 5 mm.

69. The system of claim 64 wherein the electrode array is disposed over a distal tip of an electrosurgical probe.

70. The system of claim 69 wherein the distal tip of the probe includes an insulating matrix between the electrode terminals, the insulating matrix comprising a material having a relatively low thermal conductivity.

71. The system of claim 64 wherein the electrode terminals comprises a material with a relatively low thermal conductivity.

72. The system of claim 71 wherein the electrode materials comprises a material selected from the group consisting of titanium, tungsten, platinum, aluminum and tantalum.

73. The system of claim 64 wherein the electrode terminals extend a distance of 0.0 to 5 mm from an electrically insulating matrix on the distal tip of the probe.

74. The system of claim 64 wherein the electrode terminals are substantially flush with an electrically insulating matrix on the distal tip of the probe.

75. The system of claim 64 wherein the electrode terminals are proximally recessed a distance of 0.0 to 5 mm from an electrically insulating matrix on the distal tip of the probe.

76. The system of claim 61 wherein the high frequency voltage is at least 300 volts peak to peak.

77. The system of claim 60 wherein the voltage is in the range from 600 to 1400 volts peak to peak.

78. The system of claim 60 wherein the electrically conducting liquid has a conductivity greater than 2 mS/cm.

79. The system of claim 60 wherein the electrically conductive liquid comprises isotonic saline.